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UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE RO

REPLY TO: 3430 Evaluation

DATE: February 13, 1985

SUBJECT: Biological Evaluation of Hazardous Trees at the Lakeview Summer Home Tract, Big Bear Ranger District

TO: Forest Supervisor, San Bernardino National Forest

Enclosed is a biological evaluation of hazardous tree conditions at the Lakeview Summer Home Tract on the Big Bear Ranger District. Several Jeffrey pines have failed in the tract during the past few years, but no damage has yet occurred.

Many of the standing Jeffrey pines have numerous defects that could lead to failure. Some of these trees, which were pointed out on-site, appear to be very hazardous with a high probability of failure at any time. All of the trees that are within range of existing and potential targets should be examined and treated, if necessary.

Forest Pest Management annually offers a training course on hazard tree recognition as part of the Regional Forester's Training Calendar. In addition, if more specific information is needed, FPM can, upon request, provide on-site training to individuals involved in hazard tree inspection programs.

W. L. Freeman

WILFRED L. FREEMAN, JR.
Director of Forest Pest Management

Enclosure

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FOREST PEST MANAGEMENT
Pacific Southwest Region

Report No. 85-07

3430 Evaluation
February 13, 1985

# BIOLOGICAL EVALUATION OF HAZARDOUS TREES AT THE LAKEVIEW SUMMER HOME TRACT, BIG BEAR RANGER DISTRICT SAN BERNARDINO NATIONAL FOREST

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## ABSTRACT

Several Jeffrey pines have failed during the past few years in the Lakeview summer home tract, Big Bear Ranger District. Many of the standing Jeffrey pines around the cabins have numerous defects, thereby increasing their potential for failure. These defects include basal wounds, root and butt decay, leans, wounded and cut roots, and dead roots. It is likely that additional defects will develop as public use continues in the area.

Three alternatives are presented to deal with the situation. No action would continue the present situation with increased hazard of property damage and risk to public safety. Removing the identified hazardous trees would reduce the levels of damage, but additional defects would continue to develop leading to increased hazard.

Instituting programs of hazardous tree inspection and vegetation management would reduce the short-term risks, decrease defect development and lessen future hazards, and improve the future vegetative condition of the summer home tract.

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## INTRODUCTION

On October 30, 1984, we visited the Lakeview summer home tract, Big Bear Ranger District, San Bernardino National Forest, with Katie Clifford, Forester Trainee, from the District. These cabins are on the north side of Big Bear Lake within a stand of old-growth Jeffrey pines. During the past several years, a number of these trees have failed and come close to causing damage to the improvements. District personnel are concerned about additional failures that could damage improvements or endanger human safety. It is intended to maintain an adequate tree cover while providing a safe environment around the tract.

## OBSERVATIONS

We looked at a Jeffrey pine that had failed in the fall of 1984. The failure occurred at the base with some root uplifting and cracking along the stem. The butt of the tree was substantially decayed with a brown crumbly rot. This rot was most likely caused by Phaeolus schweinitzii, a common butt decayer of old-growth hard pines. An old basal wound in contact with the ground was also evident on the side opposite the direction that the tree failed. This wound appeared to have been the entry site for the decay and the two defects functioned together to accelerate tree failure.

Observations of standing Jeffrey pines indicated that similar defects were present in trees around the cabins. In addition to butt decay and basal wounds, leans, wounded and cut roots, and dead roots were also present. The extent of defects in some of the trees indicated that they had a high probability of failure. This, in conjunction with the proximity of probable targets, results in a significant likelihood of damage and property loss, as well as hazard to human safety in the near future. These trees were pointed out on site to Clifford. An enclosed PSW publication by Wagener discusses these defects, as well as others, and how they can influence tree failure.

Many of the observed defects are of long-standing origin from past fires. Others are a result of the placement of the structures and associated roads and parking areas, as well as general abuse by people. Additional defects from the latter causes will develop as new injuries are incurred.

## MANAGEMENT ALTERNATIVES

1. Do Nothing. Trees will fail. Trees with basal wounds, butt and root decay, broken and dead roots, and leans will be the most likely to fail. This may result in property damage and personal injury. Failures will most likely be during fall and winter storms, however, some trees may fall at any time. Continued use of the area will incur additional wounds and broken and dead roots on trees, thereby increasing their probability of failure in the future.

2. Remove Hazardous Trees. Trees determined likely to fail and hit a target will be removed. If possible, the target might be moved, but because of the high use of the area and the regular presence of people this is limited. The likelihood of property damage and personal injuries will be reduced. Continued use of the area will result in new wounding and root mortality of residual trees. In time these trees may become hazardous and require treatment.

3. Institute Programs of Hazardous Tree Inspection and Vegetation Management. In addition to dealing with the immediate hazards, a long-term inspection program will be developed to minimize future hazards. The enclosed PSW publication by Paine describes a very complete system whereby the District can make decisions on tree treatments based on economic factors following the evaluation of physical factors of a potentially hazardous tree. Such a program would require periodic inspection of all trees in an area of concern by a trained inspector. Following inspection, the required treatments will be performed to alleviate hazardous situations.

As in Alternative 2, damage to property and public safety will be reduced. In addition, future levels of damage will be lessened as potential hazards are treated. The opportunity to incorporate other needed vegetation treatments with a hazardous tree reduction program is possible. Such other treatments would have a twofold purpose. Because of the limited number of trees, including replacements, actions would be taken to protect the trees from future damage. This would include education of the permittees, relocating roads and parking areas, and encouraging specific travel routes. In order to provide future vegetative cover, a regeneration program would be instituted. This would include both trees and shrubs. Permittees could be encouraged to water and care for this regeneration during the first few years of growth.

Recognizing tree defects and determining the potential hazards that exist requires training and experience. Forest Pest Management annually presents a training course on pest management in recreation areas, including hazard tree recognition. The course is listed in the Regional Forester's Training Calendar and is available to all personnel at no charge. If the District requires such training, they are encouraged to send representatives. If they require more specific information beyond this course, Forest Pest Management can, upon request, to provide on-site training to individuals involved in hazard tree inspection programs.